

The diagram illustrates the architecture of an Advanced MIS Server. It features a central **Advanced MIS Server** box containing an **Advanced MIS Database**. Data flows from **Operational Data** (represented by three cylinders) and an **Enterprise Data Warehouse, or other Datamarts** (represented by a large cylinder) into the **Advanced MIS Database**. The database is connected to **OLAP Users** (a computer icon) via **ODBC**. It also provides **Canned Reports Ad Hoc Queries Etc.** to **Users** (another computer icon). The server can deliver reports via **Printed Reports** (a printer icon) or **Reports Delivered Via Email** (an email client icon showing a 'System Message' with an exclamation mark and the text 'You Have Mail From Your Data Warehouse!'). A **WEB** connection is also shown leading to the **Users** computer. A reference number **12** points to the **Advanced MIS Database**, and a reference number **10** points to the **Users** computer.

Fig. 1

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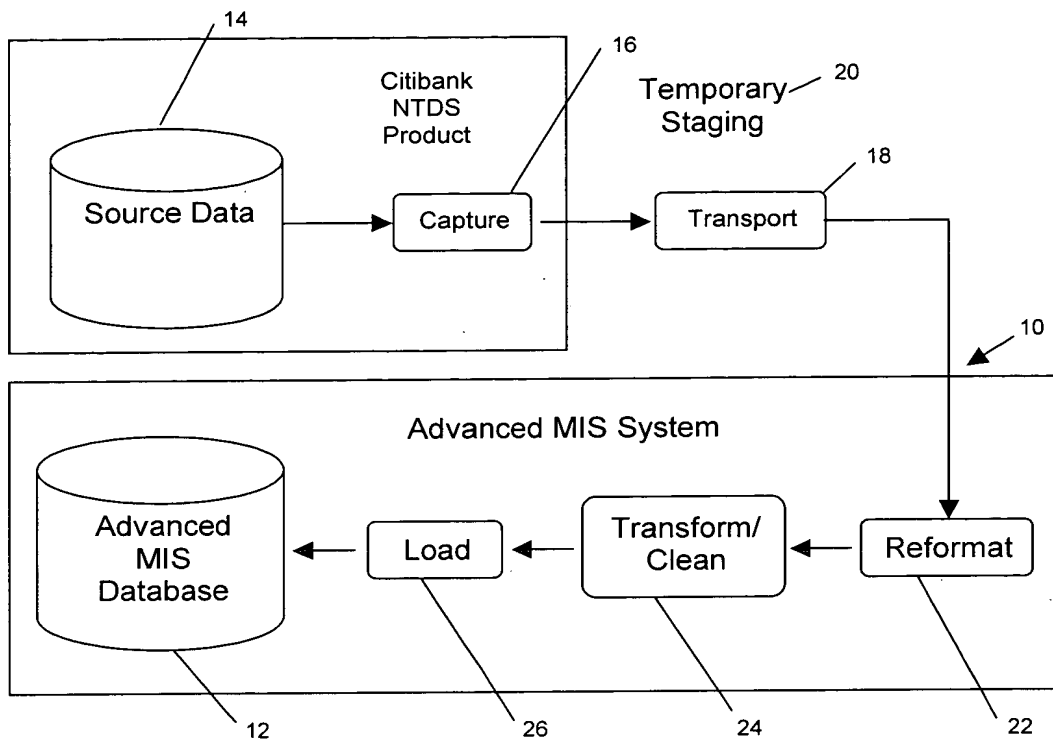


Fig. 2

## SAMPLE REPORT TYPES

Overall Summary Session	— 28
Statistics Summary	— 30
Functional Usage Summary	— 32
Payment/Transfer Activity Summary	— 34
Functional Activity Type Reports	— 36

Fig. 3

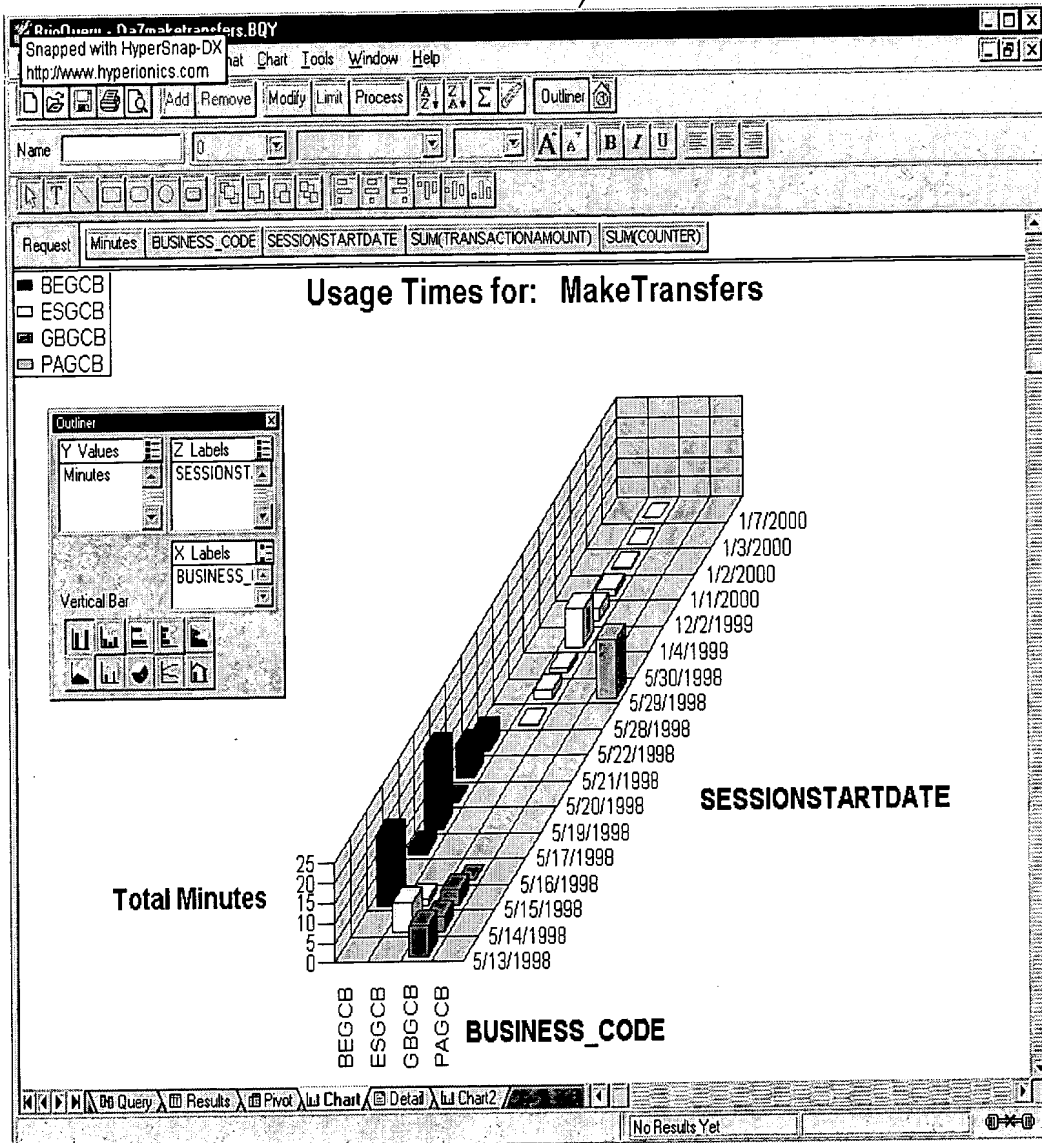


Fig. 4

[illegible]

Fig. 5

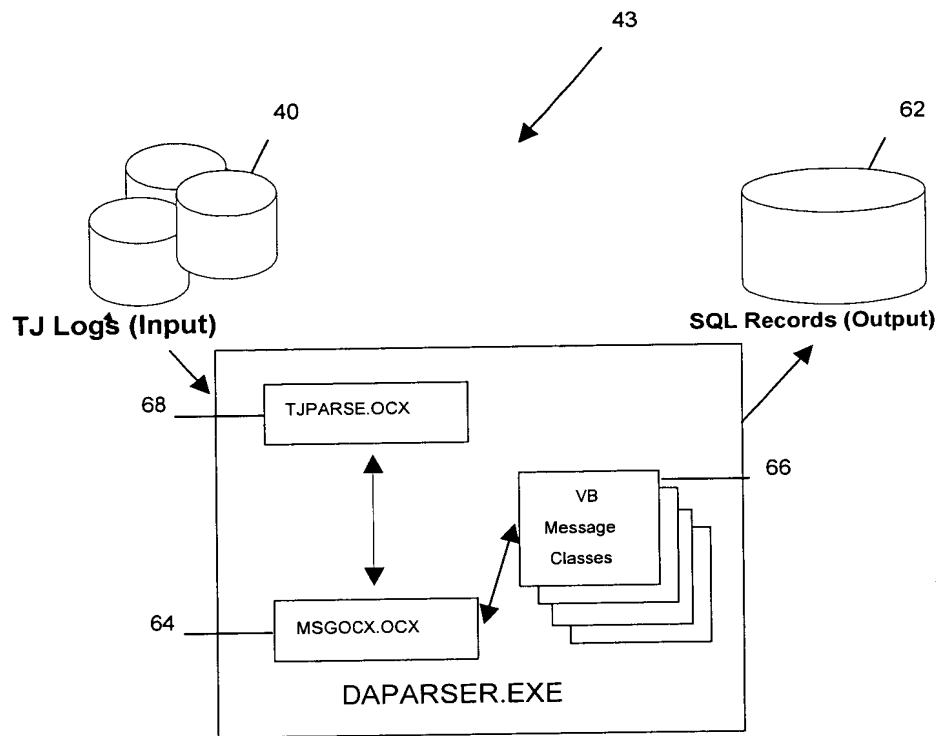


Fig. 6

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09736760 121300

**TJRead**

FileName:

File Offset: 73

Message Function Code: 32610

Description	Value
UHCLogHdr_ActionCode	
UHCLogHdr_CardClass	
UHCLogHdr_CardNumber	
UHCLogHdr_CompleteCode	
UHCLogHdr_DateTime	893952921
UHCLogHdr_LogonResponseCode	
UHCLogHdr_RecordID	
UHCLogHdr_RecordType	95
UHCLogHdr_ServerInstanceNumb	02
UHCLogHdr_ServerTTYNumber	
UHCLogHdr_SessionDateTime	0000000000000000
UHCLogHdr_SessionID	1031
UHCLogHdr_SesStartDateTime	
UHCLogHdr_TerminalID	3000

76

72

74

70

Fig. 7

DAPARSER calls a TJPARSE.OCX method to find the next (i.e., first, next, or last ... analogous to ELFlib's EE\_nextelm) message in the TJ log.



TJPARSE.OCX method returns a status to DAPARSER indicating whether the end-of-file (EOF) is reached, or if a garbled message was encountered.



DAPARSER makes a decision whether to continue or quit; if the status returned is OK, DAPARSER can assume the message contents are isolated in a buffer inside the TJPARSE.OCX control; also, DAPARSER calls another TJPARSE.OCX property to acquire the address of the message buffer which is in the form of a VB VARIANT data type.



DAPARSER acquires and gives the message buffer address to the MSGOCX.OCX OLE method, which parses the contents of the message pointed to by the message buffer address into the various ELF variables.



Upon successful completion of the MSGOCX.OCX OLE method call, DAPARSER writes an SQL record out into the SQL output file and/or examines the VB date variable in the VB class to determine if it is to be written to the ELF output file; DAPARSER then calls the TJPARSE.OCX method to find the next message as in S1; if the EOF is reached, processing is completed, and all input and output files are closed.

Fig. 8



API EXAMPLES

Initialization	78
Isolating the Next TJ Message	80
Returning the TJ Message Log Buffer Address	82
Open ELF Output File	84
Write ELF Output File	86
Close ELF Output File	88

Fig. 9

09736760 121300

09736760 124300

EXAMPLES OF APPLICATION LOG FILES  
WHICH DAPARSER CAN PARSE

Account Information	90
Bill Payments	92
Transfers	94
Customer Service Channel Reports	96
Standards Compliance	98

Fig. 10

09736760 121300

## EXAMPLES OF HOME BANKING SYSTEM USER CATEGORIES

Continuously Active User	100
First Time Active User	102
Resumed Active User	104
One Month Inactive User	106
Two Month Inactive User	108
No Longer Active User	110

Fig. 11

## EXAMPLES OF FINANCIAL TRANSACTIONS

Trans Code	Function Description
007	Make an Internal Transfer
015	Set Up Recurring Transfer
016	Change Recurring Transfer
017	Cancel Recurring Transfer
019	Make an External Transfer
023	Make a One-Time Payment
045	Cancel Future-dated Transfer
046	Set Up Recurring Payment/Standing Order
256	Change Recurring Payment/Standing Order
048	Cancel Recurring Payment/Standing Order
060	Cancel a Direct Debit
061	Inter-Citi Transfer (local)
062	Inter-Citi Transfer
065	Cancel an External Transfer
220	Send Global Cash
222	Cancel Global Cash
224	Cross-Border External Transfers
226	Change Future-dated Transfer
259	Cancel a One-Time Payment
260	Change an External Transfer
261	Change a One-Time Payment
xxx	Buy/Sell Mutual Funds
xxx	Express Payment

Fig. 12

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[illegible]Fig. 14

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## SAMPLE STANDARD REPORTS

Session Summary Report	112
Usage Comparison Report	114
Functions Summary Report	116
Customer Activation/Usage Report	118
Session Completion Details Report	120
Error Reports	122
Functions Detail Reports	124

Fig. 15

(Weekly would be replaced by Monthly for the Monthly report)

Day	Attempted Sessions	Valid Sessions	Users	First Time Users	116 Netscape Sessions	118 IE Sessions	120 Successful Financial Transactions	122 Successful non-Financial Transactions	124 Failed Transactions	126 Avg Sessions per User	128 Avg Transactions per Session	130 Avg Session (minutes)
1												
2												
3												
4												
5												
6												
7												
Total												

114

112

Fig. 16

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(Week to Week would be replaced by Month to Month for the Monthly report)

					132	134	136	138	140
	Attempted Session	Valid Sessions	Users	First Time Users	Netscape Sessions	IE Sessions	Successful Financial Transactions	Successful non-Financial Transactions	Failed Transactions
mm/dd/yyyy-mm/dd/yyyy									
mm/dd/yyyy-mm/dd/yyyy									
% change from previous week									

114

**Note:** The first line is for the week/month being reported on; the second line is for the preceding week/month.

Fig. 17

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(Weekly would be replaced by Monthly for the Monthly report)

	148 Attempts	150 % of All Attempts	152 Successful Completions	154 % of All Successful Completions	156 Users	158 % of All Users	160 % of Sessions with Function	162 Transaction Time - Avg (minutes)
142 — Account Information								
Account Details								
Account Activity								
Relationship Summary								
Download Account Activity								
164 — Subtotal								
144 — Payment/External Transfers								
Make an External Transfer								
Make a One-Time Payment								
166 — Grand Totals								

116

Fig. 18

09736760-121300

Function Group	Function Code	MIS target information	Banking /
<b>Activity Logging</b>		<b>Used to describe activity logging functions</b>	
ActivityDownloadLogRecord	32004	Describes User download from Bank	N
ChangePINLogRecord	32021	Pin Information modification	N
GetAccountActivityLogRecord	32003	Authorizer response & product type	N
GetAccountStatusLogRecord	32002	Relationship issuer information	N
LogonLogRecord	32000	Session attempts and server "hits"	N
MessageCenterLogRecord	32023	User notes & feedback	N
OrderChecksEtcLogRecord	32022	Relationship issuer information	N
ProfileResultLogRecord	32024	Authorizer Information	N
RelationshipSummaryLogRecord	32001	Relationship issuer information	N
<b>Transfers</b>		<b>Teller-less transfer activity</b>	
MakeInterCitiTransferLogRecord	32006	Currency & Account transfer statistics	B
MakeTransferLogRecord	32005	Currency & Account transfer statistics	B
<b>Payments</b>		<b>Teller-less Payment activity</b>	
MakePaymentLogRecord	32007	Single & recurring payments	B
<b>Payee Record Types</b>		<b>Customer Payee Change Activity</b>	
AddPayeeLogRecord	32015	Payee Functions	B
DeletePayeeLogRecord	32018	Payee Functions	B
SeePayeeLogRecord	32016	Payee Functions	B
ChangePayeeLogRecord	32017	Payee Functions	B
<b>Recurring Payments</b>		<b>Recurring Payments</b>	
CancelRecurringPmtLogRecord	32014	Single & recurring payments	B
ChangeRecurringPmtLogRecord	32013	Single & recurring payments	B
SeeRecurringPmtLogRecord	32012	Single & recurring payments	B
SetupRecurringPmtLogRecord	32011	Single & recurring payments	B
<b>Future Payments Types</b>		<b>Future Payments</b>	
CancelFuturePmtLogRecord	32010	Add/Delete of payment exchange	B
ChangeFuturePmtLogRecord	32009	Add/Delete of payment exchange	B
SeeFuturePmtLogRecord	32008	Add/Delete of payment exchange	B

Fig. 19

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		12/1998	11/1998	10/1998	09/1998	08/1998	07/1998
168 —	Continuously Active						
170 —	First Time Active						
172 —	Resumed Active						
174 —	1-Month Inactive						
176 —	2-Month Inactive						
178 —	No Longer Active						
180 —	Total Number of Active Users						
182 —	Total Number of Users						

118

**Note:** Total Number of Active Users is the sum of the first 3 rows of a column; Total Number of Users is the sum of the first 6 rows.

Fig. 20

184

Day	Valid Sessions	Sessions w/Sign-off		Sessions w/Timeout		Sessions w/other end	
		186 Count	188 % of All	190 Count	192 % of All	194 Count	196 % of All
1							
2							
3							
4							
5							
6							
7							
Totals							

120

Fig. 21

09736760-124300

200

Day	Valid Sessions	Sessions w/o error		Sessions w/FEP errors		Sessions w/other errors	
		202 Count	204 % of All	206 Count	208 % of All	210 Count	212 % of All
1							
2							
3							
4							
5							
6							
7							
Totals							

122

Fig. 22

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09736760-121300

214	216	218	220	222
Action Code	Description	Count	% of All	Users
888888				
222222				
333333				
111				
55				
65555				
777				
Totals				

122

Fig. 23

09736760 " 121300

	12/1998	11/1998	10/1998
Number of attempts			
Number of good completions			
Number of Users			
FX accepted			
FX declined			
Confirmation declined			
Immediate			
Future - within 1 week			
Future - within 1 month			
Future - within 1 year			
Source Product Type – Checking			
Source Product Type – Savings			
Source Currency – USD			
Source Currency – DEM			
Destination Product Type – Checking			
Destination Product Type – Savings			
Destination Product Type - Credit Card			
Destination Product Type – Loan			
Destination Currency – USD			
Destination Currency – DEM			
Amount Input Type - no choice			
Amount Input Type – credit			
Amount Input Type – debit			
Amount < 100			
Amount is from 100 to 1000			
Amount is greater than 1000			

Fig. 24



230

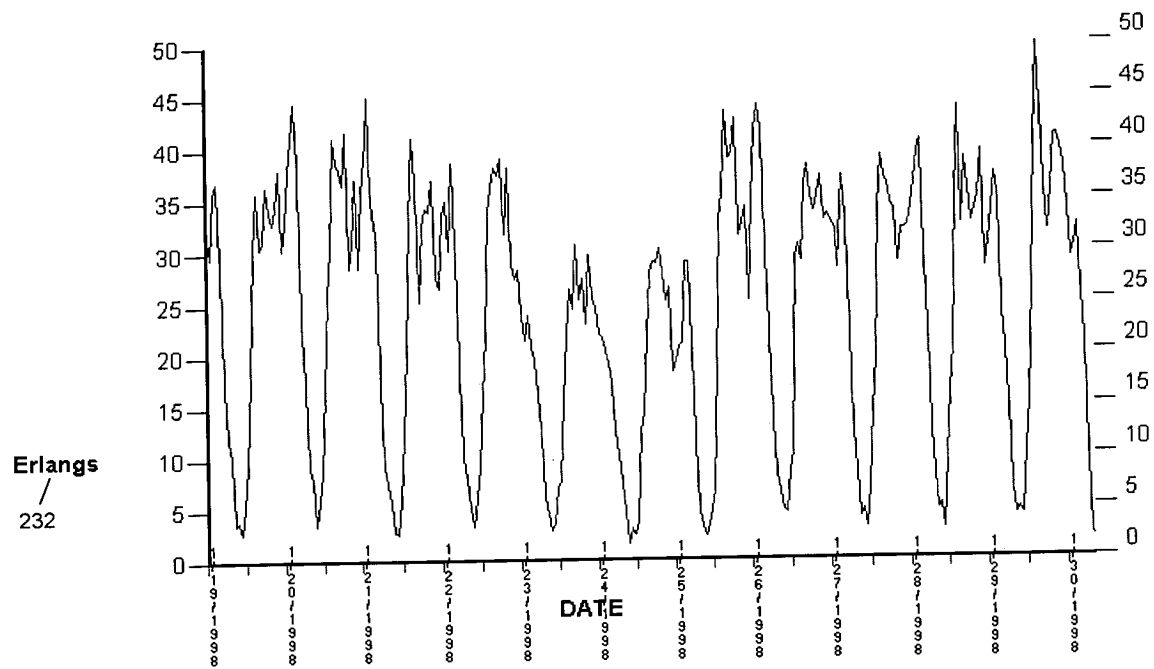


Fig. 25